These computations may be made in the English units, if desired.

Should *U* be given a higher value than 800° C. (1472° F.), the angle will be less. Two components may be selected to suit the resultant angle and velocity, but this cannot be intelligently done until the pressures available for impressing velocity upon both the gas and the air have been approximated. For the air, the pressure available will be entirely due to the chimney effect of the system, diminished by the resistance to the flow of the air, unless a fan is used. The same pressure is available in the case of the gas, plus the pressure in the gas main, which is more or less under control through the steam blower on the producer. In order to determine the chimney effect, it is necessary to obtain the height of the regenerator.

In a previous chapter several empirical rules were given for the amount of checkerwork required. According to Gruner, from 50 to 70 kg (50 to 70 Ib) of checker brick are required per kilogram (pound) of coal burned per reversal. In the case considered, 5 m^3 32 (188 cu ft) of gas is to be used each second, each kilogram of coal producing 4 rn^3 39 of gas (70 cu ft of gas per pound).

The coal consumption, therefore, is 1 kg 212 (2.686 Ib) per second.

The weight of checker brick for

this amount of coal would be from
60 to 85 kg (135 to 188 Ib). According to this rule, the amount of checker brick would be:

TABLE 14

	50 to 1	70 tol
For 15-min (900-sec.) reversals	54,540 kg	76,360 kg
For 20-min. (12 0-sec.) reversals . s	120,220 Ib	168,320 Ib
For 25-rnin (1500-sec.) reversals	160,300 Ib	224,430 Ib
	200,410 Ib	280,550 Ib

Told suggests 6 m^3 00 (212 cu ft) or 2850 kg (6283 Ib) of brick
per cubic meter (35.3 cu ft) of air per second per 100° C. (180° F.) rise in temperature. According to this rule, the checker brick would be

2850X8.51X9=218,25
0 kg (478,900 Ib)

6X8.51X9 = 459 m^3
55 (16,228 cu ft)